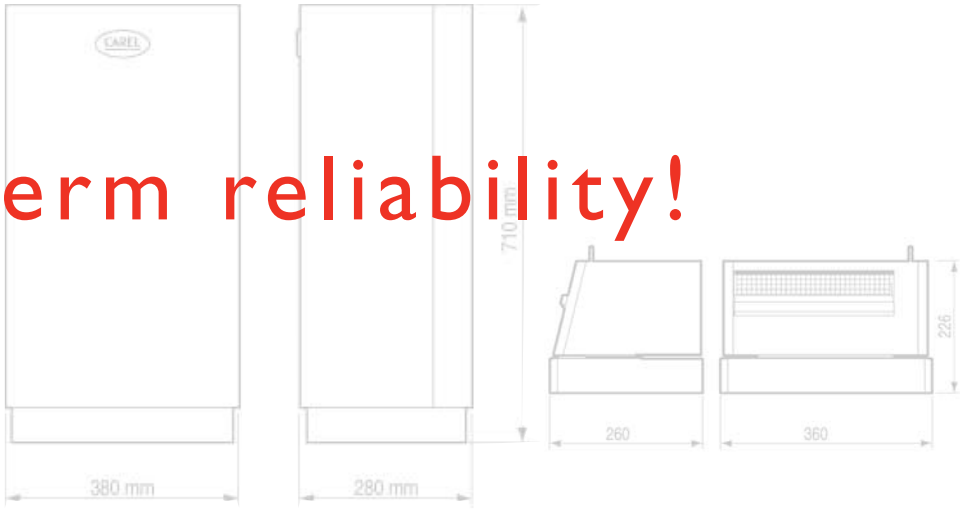
Immersed electrode steam humidifiers



Long-term reliability!

CAREL

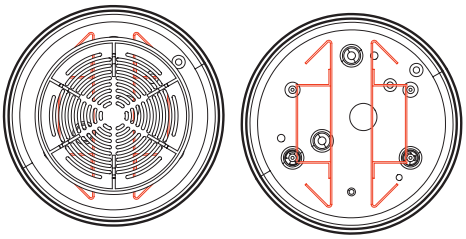
Technology & Evolution

humiSteam

The new advanced **humiSteam** immersed electrode steam humidifiers are the evolutionary progression of CAREL's industry leading SD series humidifiers. The innovative advancements used in **humiSteam** assure the engineer, contractor and customer that they are using the best electrode steam humidifier available. The **humiSteam** humidifiers have been designed to offer maximum reliability, minimum maintenance and ease of use. This has been made possible by the development of custom microprocessor-based controls that fully monitor and automate all functions of **humiSteam**, while allowing the customer to choose between economical on/off operation, or stand-alone / DDC proportional operation. **humiSteam** can utilize the new **Humivisor** graphic humidifier monitor, which allows remote management of up to 4 different humidifiers over a distance of 3200 feet.

New cylinder design

The ***humiSteam*** humidifiers use new, larger cylinders, while maintaining the same overall size footprint. The larger cylinders allow greater water volume, which allows more uniform and slower formation of mineral deposits, thus providing longer cylinder life. A new, exclusive "full body" filter virtually eliminates drain valve jamming - a major source of maintenance in competitive humidifiers.

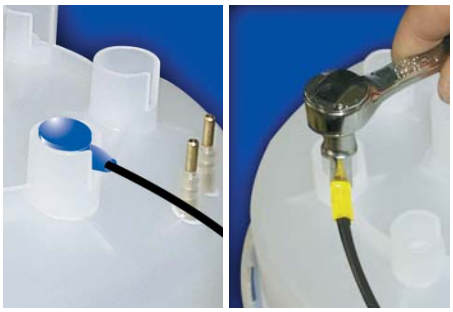


New electrode shape

The ***humiSteam*** humidifier uses newly-designed galvanized electrodes, shaped to minimize sharp electric arc points, while optimizing mineral adherence. the new electrodes, with their greater surface area and advanced shape, work with Carel's updated control algorithm to improve electrical operation stability and retard mineral deposits, allowing longer cylinder life and improved performance.

New cleanable cylinders

humiSteam humidifiers come standard with long-life "disposable" steam generator cylinders, made from UL class 94-HB fire-resistant plastic. Optionally, **humiSteam** humidifier can use our new cleanable steam cylinders, made from UL 94-V0 fire-resistant plastic, which feature a full-perimeter band clamp and rubber gasket (NO flat surfaces with nuts and bolts). When necessary, the cylinder may be easily opened, the electrodes cleaned or replaced, and then closed and returned to duty.

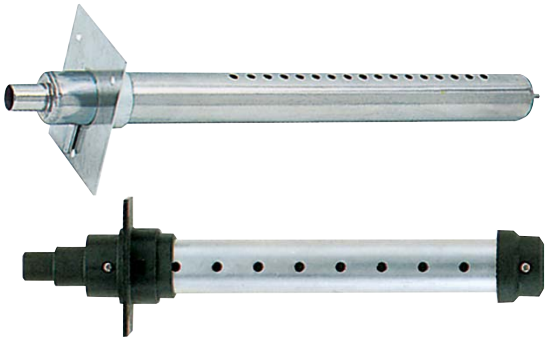


Electrical safety

The connections of the power cables to the steam generator cylinder electrodes are made using flat cable ends, fastened to the galvanized electrodes using a galvanized nut to prevent corrosion of the nut itself. The entire connection is protected by a rubber cover. This solution ensures better electrical connection, while eliminating the problems of "plug-in" connectors, which wear and come loose. The entire control circuit including valves and other components in contact with water-bearing parts are powered by low voltage (24Vac).

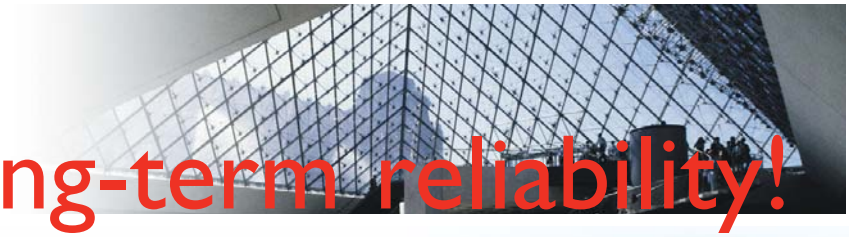
Ventilated steam distributor

The ***humiSteam*** series features a new ventilated steam distributor with optional base for remote mounting. The tangential blower is powered directly from the **humiSteam** humidifier and in direct mount versions is shipped fully assembled and wired. The steam distributor is all stainless steel, and is mounted with a deflector to vertically adjust the air flow. An optional blower speed regulator is also available to adjust the flow rate for noise reduction or ceiling height.



Duct steam distributors

The DP duct steam distributors are constructed of stainless steel and supplied complete with mounting bracket and hardware. Each pipe is precision drilled, with evenly spaced discharge orifices that ensure even distribution across the duct. Condensate removal from the end of the pipe helps prevent spitting and allows a smaller profile and lower pressure drop. Smaller ouput units and OEM units can use the SDPOEM plastic steam discharge nozzles which fit easily in small ducts or air-conditioners.



... long-term reliability!

Controls and sensors

humiSteam humidifiers can operate On/Off or proportional. In proportional operation, they can be controlled by a DDC signal or external humidity controller, OR they can be connected to humidity sensors and provide stand-alone control without the need for external controllers. Stand-alone units can also provide a dehumidify contact for full humidity control integration. Carel provides a complete selection of controls and sensors for On/Off or proportional operation.

Remote communications

The modulating versions also feature an RS485 serial interface for connection to supervisor and BAS systems, as well as to Carel's **humiVisor** remote terminal with graphic display, which allows local area networks of up to 4 different humidifiers (**humiSteam**, **gaSteam**, **humiFog, heaterSteam**) to be created at distances of up to 3200 feet. **humiVisor** allows simple centralized management of all the units, with full graphic display of all operating parameters, alarms, and working curves.

HumiSteam: long term reliability!

The **humiSteam** series is available in capacities from 3.3 to 285 lbs/hr, making the **humiSteam** humidifiers the most evolved and flexible solution for a wide range of humidification needs, from museums to clean rooms, from commercial to industrial applications. During the design of the new **humiSteam** humidifiers, special attention was paid to the maintenance aspects, using new long-life cylinders with an advanced electrode shape and a full body drain filter to extend the operating time between maintenance cycles. A new highly sophisticated control algorithm, controls the chemistry in the cylinder precisely to reduce mineral buildup and provide stable, long-life operation. Disposable or cleanable cylinders are available. Remote supervision of the humidifiers is allowed through a high-speed RS485 serial network connection.

CAREL

VAC Ph.	Factor	UNIT MODEL NUMBER: CAPACITY, AMPERAGE, WATTAGE												
		001	003	005	008	009	010	015	025	035	045	065	090	130
208 (U) 1	Lbs/hr	3.3	6.6	11		20								
	kg/h	1.5	3	5		9								
	Amps	5.4	10.8	18		32.8								
	KW	1.13	2.25	3.75		6.82								
230 (D) 1	Lbs/hr	3.3	6.6	11		20								
	kg/h	1.5	3	5		9								
	Amps	4.9	9.8	16.3		29.7								
	KW	1.13	2.25	3.75		6.82								
208 (W) 3	Lbs/hr		6.6	11	17.6		22	33	55	77	99			
	kg/h		3	5	8		10	15	25	35	45			
	Amps		6.2	10.4	16.7		20.8	31.2	52.1	72.9	93.7			
	KW		2.25	3.75	6		7.5	11.25	18.76	26.26	33.76			
230 (K) 3	Lbs/hr		6.6	11	17.6		22	33	55	77	99			
	kg/h		3	5	8		10	15	25	35	45			
	Amps		5.6	9.4	15.1		18.8	28.2	47.1	65.9	84.7			
	KW		2.25	3.75	6		7.5	11.25	18.76	26.26	33.76			
460 (M) 3	Lbs/hr		6.6	11	17.6		22	33	55	77	99	143	198	286
	kg/h		3	5	8		10	15	25	35	45	65	90	130
	Amps		2.8	4.7	7.5		9.4	14.1	23.5	33	42.4	61.2	84.7	122.4
	KW		2.25	3.75	6		7.5	11.25	18.76	26.26	33.76	48.76	67.52	97.53
575 (N) 3	Lbs/hr		6.6	11	17.6		22	33	55	77	99	143	198	286
	kg/h		3	5	8		10	15	25	35	45	65	90	130
	Amps		2.3	3.8	6		7.5	11.3	18.8	26.4	33.9	49	67.8	97.9
	KW		2.25	3.75	6		7.5	11.25	18.76	26.26	33.76	48.76	67.52	97.53
Height Width Depth	In. (mm)	24.4 (620) 14.4 (365) 10.8 (275)				28.0 (710) 14.4 (365) 10.8 (275)			35.0 (890) 21.9 (555) 14.2 (360)			37.2 (945) 25.6 (650) 17.9 (455)	37.2 (945) 45.5 (1155) 17.9 (455)	
Dry weight	Lbs. (kg)	35.3 (16)				44.0 (20)			85.8 (39)			112.2 (51)	162.8 (74)	
Wet weight	Lbs. (kg)	41.9 (19)				59.5 (27)			133.4 (60.5)			206.8 (94)	352 (160)	
Water Feed	gpm (l/min)	0.16 (0.6)				0.32 (1.2)			1.06 (4.0)			1.85 (7)	3.7 (14)	
Water Inlet	In. (mm)	3/4" G to 1/4" O.D. comp.											3/4" G to 1/4" O.D. comp. X 2	
Max. Drain	gpm (l/min)	1.32 (5)							6 (22.5)				12 (45)	
Drain Size	In. (mm)	1-5/8" hose (40)											1-5/8" hose (40) x 2	
Min. Drain	In. (mm)	3/4 (19)							1-1/2 (38)				2-1/4 (58)	
Cylinders		1											2	
Size & No. steam outlets	In. (mm)	7/8" (22) x 1		1-1/4" (30) x 1					1-5/8" (40) x 1 UE045<208Vac / UE065 = 1-5/8" (40) x 2				1-5/8" (40) x 4	
Pressure	In. WC (Pa)	8" WC (2000 Pa)		6.4" WC (1600 Pa)		6.8" WC (1700 Pa)			9.2" WC (2300 Pa)					
Control		24 VAC 50/60 Hz., 30 VA							24 VAC 50/60 Hz., 40 VA				24 VAC 50/60 Hz., 80 VA	
Operating	°F (°C)	34-140 °F (1-40°C), 10-60 %RH												
Water Type		15 - 116 psi (1-8 bar), 125-1250 MicroMhos conductivity												
Ventilated steam distributor		VSDU0A 30 Watts 100 CFM (170 m3/h) 50 dBA 10 to 104°F (-10 to 40°C) 10 to 60%RH							VRDXL (X 2 for UE090 & UE130 35 Watts 382 CFM (650 m3/h) 40 dBA 14 to 140°F (-10 to 60°C) 0 to 80%RH					

UE042704

Model Codification

UE	003	H	D	000
HumiSteam Identifier	**Model / Capacity in kg/h**	**Type of Controller** (H = standard)	**Power Supply:** U = 208/1 D = 230/1 W = 208/3 K = 230/3 M = 460/3 N = 575/3	**Version number**

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